

Listing of Claims

1. (currently amended) A device for implantation in a living being for detecting electrical bioactivity comprising:

two measuring electrodes for detecting a voltage difference representing bioactivity of tissue of the living being;

a wireless transmitter ~~for transmitting~~ adapted to transmit information outside the tissue, the information relating to the bioactivity as represented by the voltage difference detected by said two measuring electrodes;

a wireless energy receiver ~~for receiving~~ adapted to receive energy from outside the tissue to supply said transmitter with electrical energy, said transmitter and said energy receiver operating in parallel in time; and

a voltage sensitive switch connected between said two measuring electrodes and said transmitter, said voltage sensitive switch being positioned for switching said transmitter such that information relating to changes in electrical bioactivity voltage is ~~can be~~ coded in analog fashion in the form of a change of at least one transmission property of said transmitter, and information relating to the identity of said transmitter is ~~can be~~ coded in analog fashion in the form of at least one transmission property of said transmitter.

2. (previously amended) A device according to claim 1, the at least one transmission property of said transmitter is at least one of a transmit amplitude and a transmit frequency.

3. (currently amended) A device according to claim 1, said switch being configured such that said switch switches said transmitter to an on condition or an off condition when the detected voltage difference overshoots or undershoots a voltage threshold value which is ~~can be~~ fixed in advance.

4. (previously amended) A device according to claim 1, said transmitter comprising a closed resonant circuit.

5. (previously amended) A device according to claim 1, said transmitter comprising a photodiode.

6. (previously amended) A device according to claim 1, said transmitter comprising an LED.

7. (previously amended) A device according to claim 1, said transmitter comprising a quantum well structure.

8. (previously amended) A device according to claim 1, said transmitter comprising a quantum line structure.

9. (currently amended) A device according to claim 1, further comprising at least two transmitters that ~~can be~~ distinguished on the basis of different transmission properties.

10. (withdrawn) A device for implantation in a living being for influencing electrical bioactivity comprising:

two electrodes for applying an electric voltage in tissue of the living being to influence bioactivity;

an energy receiver for receiving energy from outside the tissue to supply the two electrodes with electrical energy;

a control information receiver for receiving wireless control information signals from outside the tissue, said energy receiver and said control information receiver operating in parallel in time;

a voltage-sensitive switch connected between said control information receiver and said two electrodes, said voltage-sensitive switch being positioned for switching a flow of electric current from said energy receiver to said electrodes under the control of said control information receiver; and

the identity of said control information receiver and the magnitude of the influence on the electrical bioactivity being coded in analog fashion by at least one of the frequency and amplitude of the control information signals.

11. (withdrawn) A device according to claim 10, said switch being driven by said control information receiver such that a voltage pulse is generated between said two electrodes.

12. (withdrawn) A device according to claim 10, said control information receiver comprising a closed resonant circuit.

13. (withdrawn) A device according to claim 10, said control information receiver comprising a photodiode.

14. (withdrawn) A device according to claim 10 further comprising at least two control information receivers that can be addressed separately on the basis of different reception properties.

15. (withdrawn) A device according to claim 10, said energy receiver comprising a closed resonant circuit.

16 (withdrawn) A device according to claim 10, said energy receiver comprising a photodiode.

17. (withdrawn) A device according to claim 10, said energy receiver comprising a piezocrystal.
18. (withdrawn) A device according to claim 10, said voltage-sensitive switch comprising a voltage-sensitive resistor.
19. (withdrawn) A device according to claim 10, said voltage-sensitive switch comprising a chain of open field effect transistors.
20. (withdrawn) A device according to claim 10, said voltage-sensitive switch comprising an electrooptic switch.
21. (withdrawn) A device according to claim 20, said electrooptic switch comprising an LED and a photodiode.
22. (withdrawn) A device according to claim 10, said device further comprising an integrated circuit.
23. (withdrawn) A device according to claim 10, said device being at least partially encapsulated within an electrically insulating material.
24. (withdrawn) A device according to claim 10, at least one of said electrodes comprising a spur.
25. (withdrawn) A device according to claim 10, at least one of said electrodes comprising a capacitor.
26. (withdrawn) A device according to claim 10, at least two of said energy receiver, said two electrodes, said control information receiver, and said voltage sensitive switch, is implanted within the tissue.

27. (withdrawn) A device according to claim 10, at least one of said energy receiver, said two electrodes, said control information receiver, and said voltage sensitive switch is positioned outside the tissue.